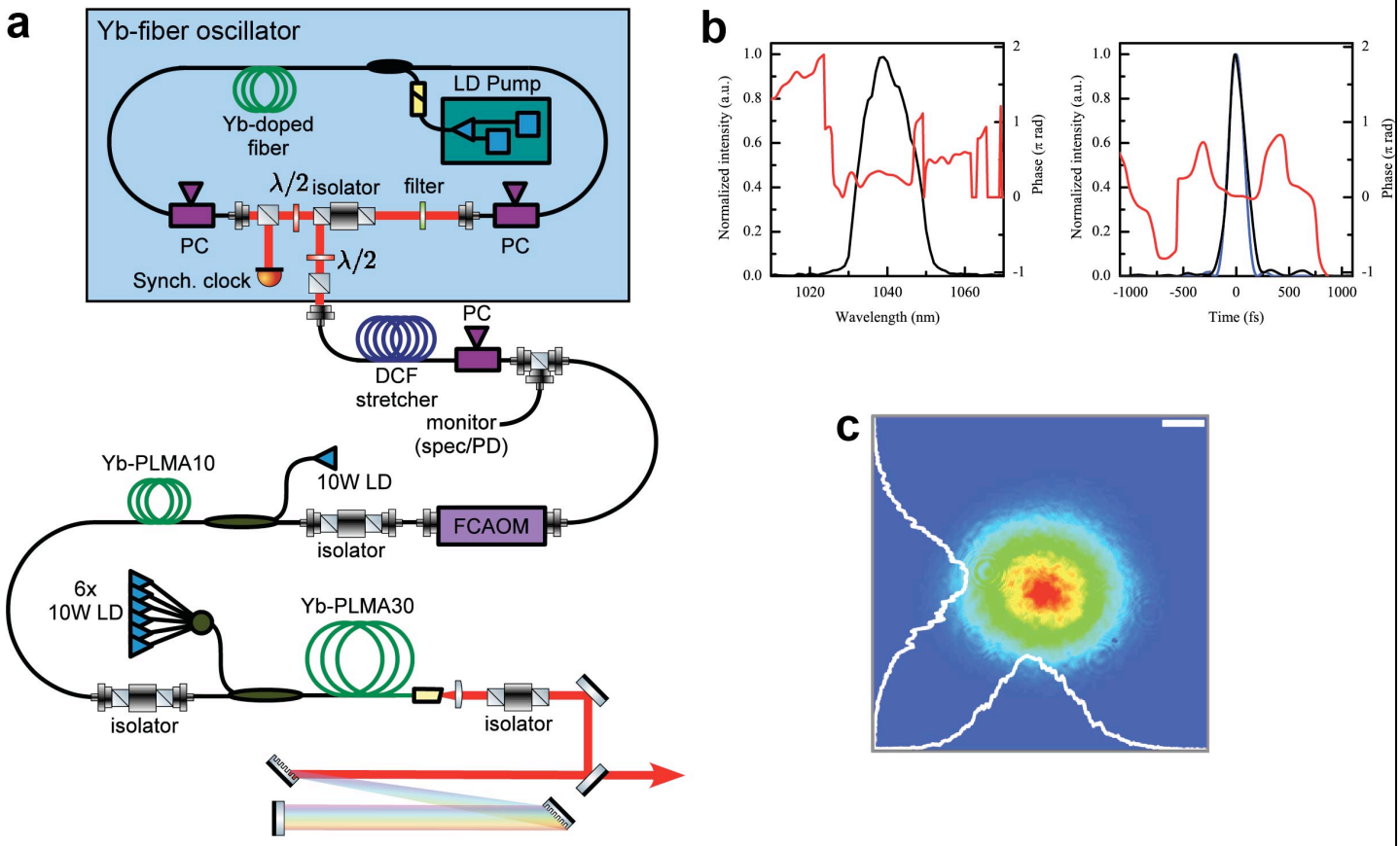
Supplementary Figure 2



Supplementary Figure 2

Home-built ytterbium (Yb) all-fiber chirped-pulse laser amplifier (FCPA) design and characterization.

(a) Detailed sketch of the FCPA, showing the Yb-fiber seed oscillator (pulse repetition rate 58 MHz) at the top. LD – laser diode; PC – polarization controller; DCF – dispersion compensating fiber; FCAOM – fiber-coupled acousto-optic modulator; PLMA – polarization-maintaining large mode area fiber; PLMA10 – 10 μm core diameter PLMA; PLMA30 – 30 μm core diameter PLMA. The oscillator is pumped with a 600 mW single-mode 976-nm laser diode. The amplifier is pumped with 10W ~980-nm pump diodes. **(b)** Left: Output spectral intensity (black) as well as phase (red) of the FCPA; Right: Temporal pulse profile (black - measured FWHM 183 fs, blue - calculated Fourier limited pulse duration based on the output spectrum, FWHM 170fs) and temporal phase profile (red). **(c)** Measured beam profile of the FCPA, showing corresponding cross sections (white). Scale bar 1mm.